MCOSMOS
GEOPAK

Bulletin No. 2077

Coordinate Measuring Machine software for users from entry-level to expert.

MiCAT
Mitutoyo Intelligent Computer Aided Technology
the standard in world
metrology software
CMM

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GEOPAK CNC or Manual

GEOPAK (Basic Geometry module) provides an easy graphical console to the operator by the use of tool bars and windows which can be personalized to the operator's preference.

GEOPAK provides visual tools, completely eliminating the use of difficult codes or abbreviated commands as other packages use. Its graphically enhanced display provides step-by-step, on screen wizards that prompt the operator, allowing even inexperienced users to create routines to measure parts.

Our basic level software includes the flexibility for advanced tools demanded by the most experienced operators; e.g. looping, formula calculations or expressions that use variables, libraries of day to day sub-routines and conditional statements which add logic for a wide variety of applications.

## Ease-of-use for Entry-level to Expert

GEOPAK's program tree is a very simple easy to read and edit. The program tree can be collapsed or expanded to see more details.

Simply double click on the function line and a easy dialog box will appear; e.g. a hole that is threaded may not repeat if the machine does not follow the pitch.
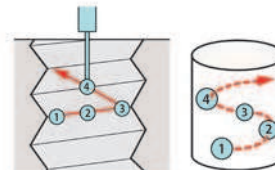
With CNC control the dialog box allows a pitch value to program the machine to follow the pitch of the thread.
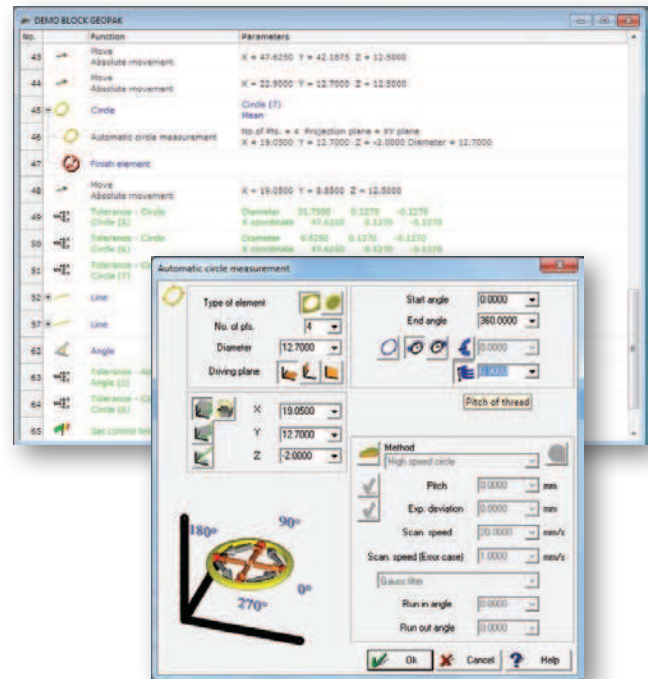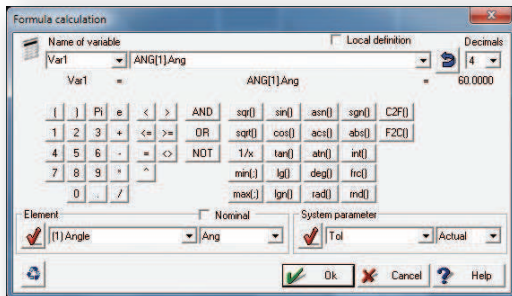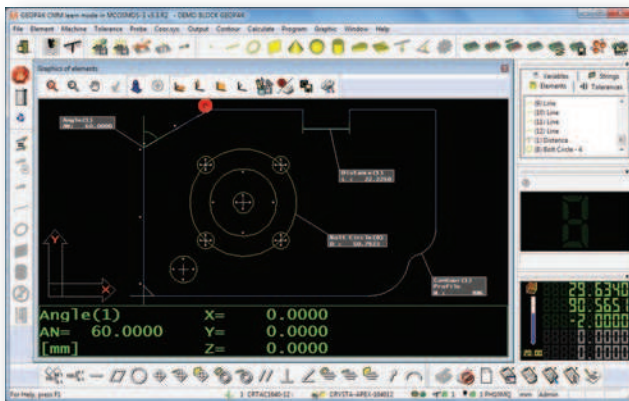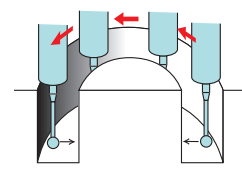

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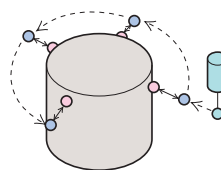
Arc Movement of Probe

Direct Measurement of Tapped Hole

Circular Slot Measurement

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Graphic Layouts

"Graphics of elements" screen shows the geometric elements created after each measurement is made, so the operator has a visual reference of the measurements.

Large bold font can be displayed on the bottom of screen which helps the operator view the results from a distance, especially handy for manual or large format CMMs using a joystick to program the machine.

The information of each element can be displayed with a result flag that can be arranged and saved as a layout for a graphical report. The Graphics of elements be exported to IGES or DXF for reverse engineering.
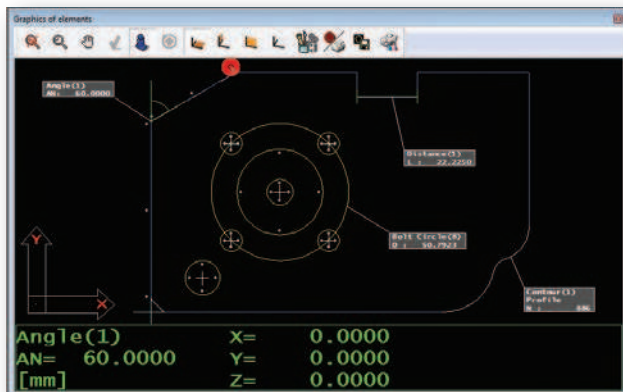
Toolbars and window positions can be customized and stored to the operator's preference.


Visual Aids

GEOPAK "List of Results" is easy to understand, when a characteristic has passed, failed the condition; the user may set control limits to warn you, if a part is going out of process control. Each characteristic is compared and verified by displaying a color bar which grows according to amount of tolerance used, to the left (LSL) or to the right (USL) green-pass, yellow-out of control and red-fail.

Probe Builder

GEOPAK's Probe Builder visually displays your probe setup using a complete library of Renishaw part numbers, styli shapes from spherical, disc, cylindrical and star tips are all supported. Your stylus list can be modified to show only the components you have in inventory.

Renishaw is the world's largest supplier of CMM styli and are readily available for quick turn-around.
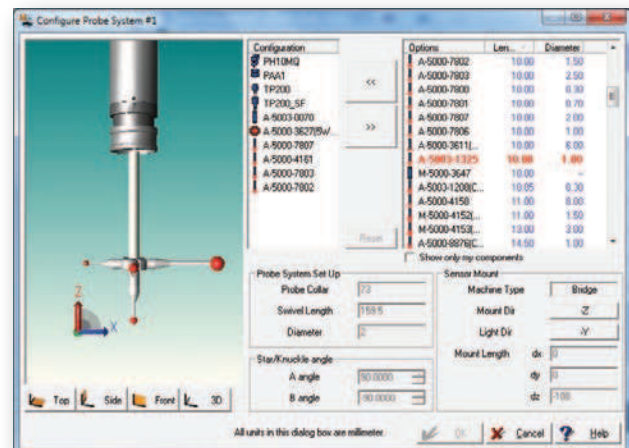
Easy Probe Definition & Calibration

GEOPAK supports Renishaw MH series (manual) and original motorized indexing probe the PH10 which can be indexed and locked in 720 individual positions.

Angle positions are marked showing the operator which positions have been defined and a graphical window shows it's position relative to the CMM Coordinate System.

Auto Probe Calibration can be done within GEOPAK during a measurement session or saved as an external part-program.

Flexible Reporting

In GEOPAK there is no limit to your reporting capabilities, we have created a series of templates that are ideal for typical applications, but if a custom report is needed, our Protocol-Designer allows the operator to customize the output to any format desired.

The Protocol Designer can be used to eliminate the need to transpose the GEOPAK results to a separate spreadsheet, document that your customer may require, e.g. AS9102. Forms can be created and saved as templates so the data from GEOPAK auto-fills the report after executing the part program.

When a template is used for output the operator can chose a variety of formats such as Adobe PDF®, Microsoft Excel® and save the results to a server or the local printer.
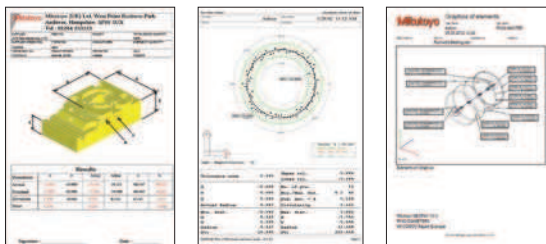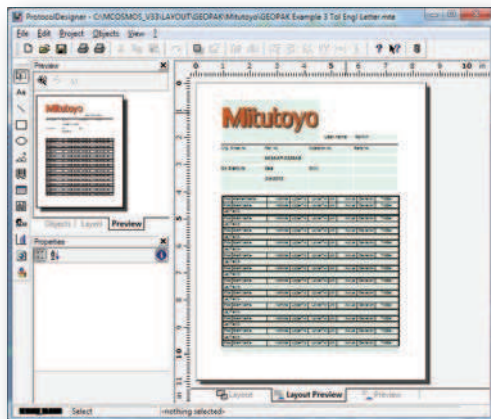

Part Security & Management

Included with GEOPAK is a built in module that fully controls the machine and the access to your "Parts". The "Part Manager" displays the part list that may be stored locally on the DME computer or via the LAN to a company network drive.

Within the parts list the operator can attach the setup instruction documents, header information for part traceability and thumbnails for visual reference.
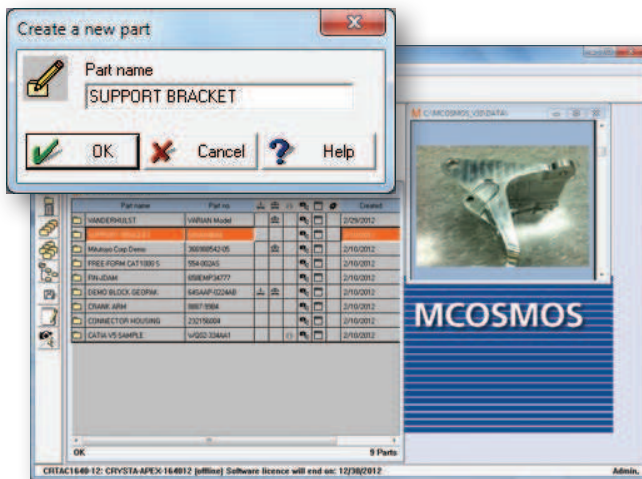
The Part Manager interface has complete control of GEOPAK. User profiles may be set to limit access to LEARN, EDIT or REPEAT securing the system.

Our security meets the FDA 21 CFR Part 11 specification for Electronic Data Storage and Signatures with enhanced logon security, profiles and audit trails.
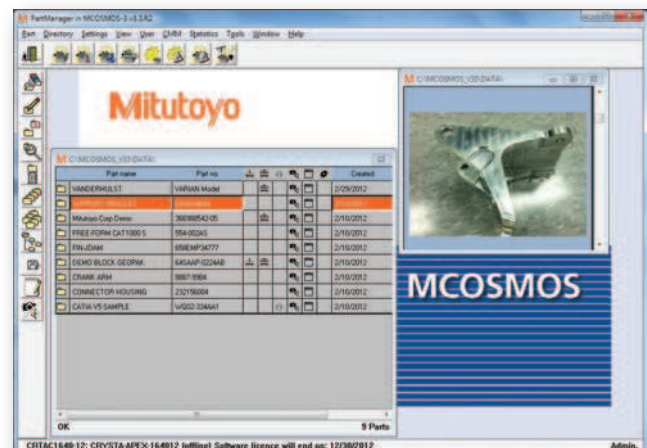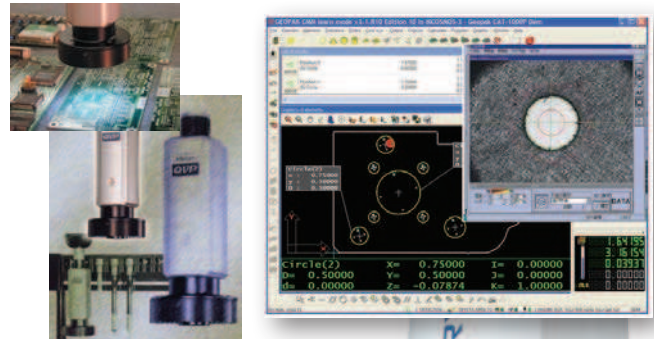
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Part Manager

From start to finish GEOPAK is easy to use without having to be an expert. Simply create a new part and add media such as an image, audio and work instructions to assist the operator before measurement.

Part Alignment

GEOPAK walks the operator through the part-program process by using graphical prompts and pictures as a guide. This is especially handy for Joy-stick alignment or manual machines.

GEOPAK CNC supports the Mitutoyo QVP video probe by using VISIONPAK to detect edges and control lighting. Auto Focus and various edge detection tools make the CMM a large Non-Contact measuring system.
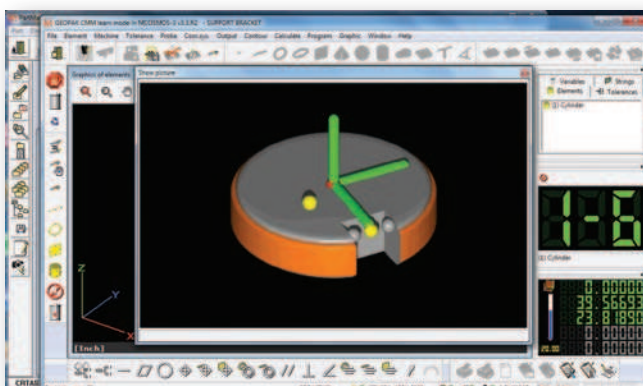
The QVP video probe is seamlessly integrated in GEOPAK so non-contact and contact probe measurements can be executed in one common coordinate system.
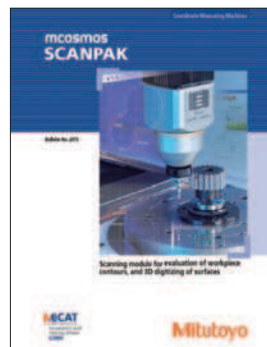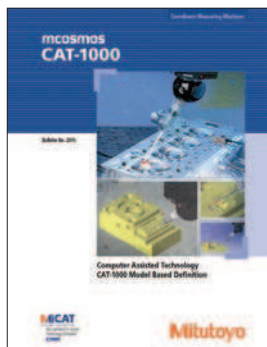
The QVP was designed as a light weight camera for the Renishaw PH10M Multi-wire probe head and to quickly change from contact sensor to non-contact using the Auto Changing Racks designed by Renishaw.

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Coordinate Measuring Machines

Vision Measuring Systems

Form Measurement

Optical Measuring

Sensor Systems

Testing Equipment and Seismometer

Digital Scale and DRO Systems

Small Tool Instruments and Data Management

mcosmos SOFTWARE

Coordinate Measuring Machine software for the beginner to the expert.

mcosmos CAT-1000

Computer Assisted Technology CAT-1000 Model Based Definition

mcosmos SCANPAK

Scanning module for evaluation of workpiece contours, and 3D digitizing of surfaces

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Precision is our Profession